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EXAMINER

BLACKWELL RUDASIL, GWENDOLYN A

ART UNIT

PAPER NUMBER

1775

DATE MAILED: 04/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicant(s)

09/485,329

Applicant(s)

LAZAREV ET AL.

Examiner

Gwendolyn A. Blackwell-Rudasill

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— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 13.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

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DETAILED ACTION

Drawings

1. The drawings are objected to because the specification beginning on page 8 discloses that figures should be present in the present application, however there are no figures present. Drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claims 4-18 are objected to because of the following informalities:

Line 1 of each of the abovementioned claims contain the phrase “any of the”. It would seem that this is residual multiple dependent claim language that should be removed from the claims as the claims are no longer multiple dependent. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

4. Claims 1-3, 5, and 9-10 are rejected under 35 U.S.C. 102(a) as being anticipated by United States Patent no. 5,686,979, Weber et al.

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Regarding claims 1-3, 5, and 9-10

Weber et al disclose an optical panel comprised of two substrates with two outer reflective polarizers and a liquid crystal material disposed between the substrates. The reflective polarizer comprises a multilayered stack of pairs of adjacent material layers wherein the layers have high and low refractive indices. The reflective components are partially transmitting, (column 6, lines 30-55).

5. Claims 1-3, 5, and 9-10 are rejected under 35 U.S.C. 102(a) as being anticipated by United States Patent no. 5,673,127, Takahara et al.

Regarding claims 1-3, 5, and 9-10

Takahara et al disclose a display panel wherein one embodiment is comprised of two substrates with a first electrode formed on the first substrate and a second electrode formed on the second substrate having a light modulating layer sandwiched between the first and second electrode substrates. At least one of the electrode layers has a multilayered dielectric film formed thereon with the second electrode made from a light reflecting material. The multilayered film reflects visible rays but transmits UV rays. A nematic liquid crystal material is used as the light modulating layer, (columns 10-11, lines 61-65).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 6, 11-12, 14, and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent no. 5,686,979, Weber et al in view of United States Patent no. 4,783,150, Tabony.

Weber et al disclose the limitations of claims 1-3, 5, and 9-10 above. In addition, the liquid crystal material preferably used is twisted nematic or super twisted nematic materials, (column 5, lines 13-20). Weber et al do not specifically disclose the use of a dichroic dye in the liquid crystal material.

Tabony discloses a liquid crystal optical device that uses lyotropic liquid crystals wherein it is known in the art that nematic liquid crystal is a specific form of a lyotropic liquid crystal, (column 1, lines 35-68). Dichroic dyes can be added to the liquid crystal material, (column 7, lines 3-7).

Weber et al and Tabony disclose inventions related to the used of liquid crystal materials in display devices. It would have been obvious to one skilled in the art at the time of invention to modify the liquid crystal material of Weber et al with the dichroic dye of Tabony to create an optical panel with the ability to display colors, (Tabony, column 7, lines 6-7), for a more

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decorative display depending on whether the state of the liquid crystal device is in the open or closed configuration.

9. Claims 4, 6-8, and 11-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent no. 5,673,127, Takahara et al in view of United States Patent no. 4,783,150, Tabony further in view of International Patent Application Publication no. WO 97/39380, WO '380.

Takahara et al disclose the limitations of claims 1-3, 5, and 9-10 above. In addition, the liquid crystal material can contain other crystalline compounds, (column 20, lines 56-63).

Tabony discloses a liquid crystal optical device that uses lyotropic liquid crystals wherein it is known in the art that nematic liquid crystal is a specific form of a lyotropic liquid crystal, (column 1, lines 35-68). Dichroic dyes can be added to the liquid crystal material, (column 7, lines 3-7).

WO '380 disclose a liquid crystal display device comprised of two substrates with a liquid crystal layer disposed between the substrates, (abstract). In one embodiment, aluminum can be used as the reflecting layer formed between one of the substrates and the liquid crystal material, (pages 11-12, lines 23-5).

Takahara et al, Tabony, and WO '380 disclose inventions related to the used of liquid crystal materials in display devices. It would have been obvious to one skilled in the art at the time of invention to modify the liquid crystal material of Takahara et al with the dichroic dye of Tabony to create an optical panel with the ability to display colors, (Tabony, column 7, lines 6-7), for a more decorative display depending on whether the state of the liquid crystal device is in the open or closed configuration. It would have also been within the skill of one in the art at the

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time of invention to further modify the Takahara /Tabony display device by substituting one of the reflective layers with aluminum in order to lower manufacture costs as it is known that aluminum is inexpensive and easy to deposit onto substrates using many different deposition techniques.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


United States Patent no. 5,828,488, disclose reflective polarizer display comprised of a reflective polarizer and an optical cavity.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gwendolyn A. Blackwell-Rudasill whose telephone number is (571) 272-1533. The examiner can normally be reached on Monday - Thursday; 6:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on (571) 272-1535. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Gwendolyn A. Blackwell-Rudasill
Examiner
Art Unit 1775

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